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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

CHRISTOPHER MILLER and ANGELA
BOYKIN, individually and on behalf of all
others similarly situated,

Plaintiffs,

v.

APPLE INC.,

Defendant.

Case No. 5:24-cv-01988

CLASS ACTION COMPLAINT

DEMAND FOR JURY TRIAL

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1 Plaintiffs Christopher Miller and Angela Boykin (“Plaintiffs”), individually and on behalf
2 of all others similarly situated, brings this Class Action Complaint for damages and injunctive relief
3 against defendant Apple, Inc. (“Apple”, “Defendant”, or the “Company”) for violations of (i)
4 Section 2 of the Sherman Act, 15 U.S.C. § 2, (ii) California’s Cartwright Act, Cal. Bus. & Prof.
5 Code § 16700, *et. seq.*, and (iii) California’s Unfair Competition Law, Cal. Bus. & Prof. Code §
6 17200, *et. seq.* All allegations, other than those concerning the Plaintiffs, are based on information
7 and belief.

8 INTRODUCTION

9 1. Apple, Inc was founded in 1976 as Apple Computer Company and originally
10 focused on manufacturing and marketing personal computers (“PCs”). Since its inception, to
11 distinguish itself from competitors, Apple focused on expensive, high-end design and niche
12 marketing. Initially, the Company struggled against cheaper competitors like Microsoft’s Windows
13 PCs and faced the brink of bankruptcy by the 1990s.

14 2. Although Apple expanded its product line to include popular products like the iPod
15 and the iTunes app, its initial success was largely limited because these products were only
16 available on Apple’s Mac PCs, while the PC market was dominated by Windows. Apple was unable
17 to market its iTunes software on Windows PCs because Microsoft refused to make available to
18 non-Microsoft companies the Application Programming Interfaces (“APIs”) required to run
19 software programs on the Windows operating system. More generally, Microsoft was actively
20 restricting APIs to impede non-Microsoft software programs from competing on its Windows
21 platform. Therefore, in the first two years, Apple was only able to make a few hundreds of
22 thousands in sales.

23 3. In 2007, Apple launched its flagship product, the iPhone—a smartphone, built on a
24 mobile operating system with high-end hardware, that, critically, could run software applications
25 (“apps”) giving it the functionality and usability of a personal computer. Although initially Apple
26 only offered a few dozen apps that it had created for the iPhone, the Company, realizing the
27 enormous value that entrepreneurial, innovative developers could offer to iPhone users and the
28 iPhone platform itself, invited third-parties to develop apps for its platform, and capitalized on the

1 work of these developers by acting as a gatekeeper and taking fees based on their work. A crucial
 2 part of Apple's business strategy was making its iPhone platform attractive for third-party
 3 developers to develop innovative apps for the platform luring more and more consumers. Or to put
 4 it in the terms of Apple's founder Steve Jobs in 2010, Apple's goal was to "make Apple[s]
 5 ecosystem even more sticky."¹ This goal was core to the Company and even three years later, Apple
 6 executives were strategizing on how to "get people hooked to the ecosystem."²

7 4. Apple's business strategy was a tremendous success. Over more than 15 years,
 8 Apple has built and maintained the most dominant smartphone platform and ecosystem in the
 9 United States by attracting a wide array of third-party developers to create apps that iPhone users
 10 could download through its digital storefront, the Apple App Store. Today, the iPhone's ecosystem
 11 includes products, apps, content accessories, and services that are offered by content creators,
 12 newspaper publishers, banks, advertisers, restaurants, social media companies, and others.

13 5. However, Apple has separated itself from the competition by erecting barriers and
 14 creating an extremely well-guarded "walled garden." In the words of then-CEO Steve Jobs, the
 15 purpose of the "walled garden" is to "further lock customers into our ecosystem."³ Apple's walled
 16 garden is comprised of its ecosystem of hardware, software, and services, integrated to work
 17 seamlessly across Apple's family of products.⁴ Without these protective barriers, Apple would face
 18 enormous competition, or as Apple describes it, without its walled garden, Apple would be
 19 "let[ting] the barbarians in at the gate."⁵ Fortunately, as the Company grew in power, its leverage
 20 over third-parties allowed Apple to reinforce its tight control over how third-parties could innovate
 21 and monetize on and off the iPhone in ways that were both anticompetitive and exclusionary.

23 ¹ See *U.S. v. Apple, Inc.*, Case No. 2:24-cv-04055-MEF-LDW, Dkt. No. 1 (D.N.J., Mar. 21, 2024)
 24 (the "DOJ Complaint"), ¶3.

² *Id.*

25 ³ Joanna Stern, *iPhone? AirPods? MacBook? You Live in Apple's World. Here's What You Are*
 26 *Missing*, W.S.J. June 4, 2021, <https://www.wsj.com/articles/iphone-airpods-macbook-you-live-in-apples-world-heres-what-you-are-missing-11622817653>

27 ⁴ Christopher Mims, *The Main Driver of Apple's Success Has Become Its Biggest Liability*, W.S.J.
 28 Jan. 26, 2024, <https://www.wsj.com/tech/personal-tech/apple-vision-pro-walled-garden-mac-iphone-app-store-c4838278>.

⁵ Dave Michaels, *U.S. Sues Apple, Alleges Tech Giant Exploits Illegal Monopoly*, W.S.J., March 21, 2024 <https://www.wsj.com/tech/apple-antitrust-lawsuit-16066694>

1 6. Today, Apple charges as much as \$1,599 for an iPhone while earning high profit
2 margins on each device—more than double those of others in the industry. Apple is able to derive
3 further profits by controlling the market. One of the crucial ways that Apple maintains control is
4 by placing an 800-pound gorilla at the gates of its walled garden. Apple not only demands up to
5 30% of revenues that a developer collects from a new product or service it creates for the iPhone
6 but also restricts developers ability to offer applications with functionality that Apple itself wants
7 to control. To do this, Apple requires platform participants to distribute their products through
8 Apple’s own App Store and restricts the use of alternative app stores, in-app payment processors,
9 etc.

10 7. Apple understands that while a community of developers and accessory makers is
11 necessary to the success of the iPhone, they also pose an existential threat to the extraordinary
12 profits. In response, to protect its business model and reduce competition in the markets for
13 performance smartphones and smartphones generally, Apple has weaponized exclusionary and
14 anticompetitive actions to maintain its dominance. For example, Apple delays, degrades, or outright
15 blocks technologies that would increase competition in the relevant markets by decreasing barriers
16 to switching to another smartphone. Apple also suppresses innovation through a web of contractual
17 restrictions that it selectively enforces through its control of app distribution and its “app review”
18 process. Moreover, like Microsoft did to Apple’s iTunes software, Apple restricts availability of
19 APIs crucial to app development thus impeding developers from offering crucial functionalities to
20 iPhone users by leveraging its position as the gatekeeper of third party app functionality.

21 8. This complaint highlights six examples of Apple deploying these mechanisms to
22 suppress technologies that would have increased competition among smartphones. These examples
23 are not an exhaustive list of the anticompetitive tactics from Apple’s playbook, but they exemplify
24 the strategies Apple employs to create and maintain its monopoly in the performance smartphone
25 and smartphone markets. Furthermore, they demonstrate how Apple repeatedly engages in
26 unlawful conduct to prevent competition from emerging so that Apple could protect its monopoly
27 and gain exorbitant profits.

28

13. This Court has subject-matter jurisdiction over Plaintiffs' federal antitrust claims pursuant to the Clayton Act § 16, 15 U.S.C. § 26, and 28 U.S.C. §§ 1331 and 1337.

14. The Court has supplemental jurisdiction over Plaintiffs' state law claims pursuant to 28 U.S.C. § 1367.

15. Venue is proper in this district pursuant to 28 U.S.C. § 1391(b) because: (1) Apple maintains its principal places of business in the State of California and in this district; and (2) a substantial part of the events or omissions giving rise to Plaintiffs' claims occurred in this district.

16. In the alternative, personal jurisdiction and venue are proper under Clayton Act § 12, 15 U.S.C. § 22, because Defendant is found in and transacts business in this district.

INTRADISTRICT ASSIGNMENT

17. Assignment of this case to the San Jose Division is proper pursuant to Civil Local Rule 3-2(c)(e) because a substantial part of the events or omissions giving rise to Plaintiffs' claims occurred in Santa Clara County, California.

PARTIES

18. **Plaintiff Christopher Miller** is a resident of California. Mr. Miller purchased an iPhone in or around November 2023 directly from Apple. Mr. Miller has purchased several Apple products, including additional iPhones, directly from Apple.

19. As a result of Apple's restrictive contracts and anticompetitive practices, Plaintiff Miller has been harmed because Apple has foreclosed competition in the smartphone market by disabling freedom of choice in the Performance Smartphone and Smartphone Markets, and enabled Apple to charge Plaintiff supracompetitive prices, which Plaintiff did pay, for his iPhone.

20. Also, because Apple continues to engage in the anticompetitive practices described herein, Plaintiff Miller will likely continue to suffer harm.

21. **Plaintiff Angela Boykin** is a resident of Minnesota. Ms. Boykin purchased an iPhone in or around September 2023 directly from Apple.

22. As a result of Apple's restrictive contracts and anticompetitive practices, Plaintiff Boykin has been harmed because Apple has foreclosed competition in the smartphone market by

1 disabling freedom of choice in the Performance Smartphone and Smartphone Markets, and enabled
2 Apple to charge Plaintiff supracompetitive prices, which Plaintiff did pay, for her iPhone.

3 23. Also, because Apple continues to engage in the anticompetitive practices described
4 herein, Plaintiff Boykin will likely continue to suffer harm.

5 24. **Defendant Apple, Inc.** is a corporation with its principal place of business at One
6 Apple Park Way, Cupertino, California 95014, and incorporated under the laws of California.

7 25. Apple is a global technology company and one of the world's most valuable public
8 companies with a market capitalization of over \$2.5 trillion. In 2023, Apple generated annual net
9 revenues of \$383 billion and net income of \$97 billion. Apple's net income exceeds any other
10 company in the Fortune 500 and the gross domestic products of more than 100 countries.

11 26. The iPhone is the primary driver of Apple's growth and profitability. Apple gains
12 profit margins of more than 30% on devices alone –nearly double of its smartphone competitors.
13 Also, iPhone sales have made up a majority of Apple's annual revenue every year since 2012.

14 27. Apple increasingly extracts revenue from iPhone users beyond the initial
15 smartphone sale. For example, Apple offers iPhone upgrades, apps, and in-app payments, paid
16 digital subscription services (*e.g.*, Apple's music streaming, TV, news, gaming, fitness, and cloud
17 storage subscriptions), accessories (*e.g.*, tracking devices, headphones, chargers, iPhone cases), and
18 more. Apple refers to these offerings as "Services" and "Wearables, Home, and Accessories,"
19 respectively. In fiscal year 2023, these offerings accounted for nearly one-third of Apple's total
20 revenue, or four times what Apple earned from selling its computers. Some of the largest drivers
21 of revenue within these categories are Apple's smartwatch, the Apple Watch, and Apple's App
22 Store, where iPhone users purchase and download apps. In recent years, Services have accounted
23 for an increasing share of Apple's revenues, even as U.S. consumers continue to access these
24 services primarily through the iPhone. In fiscal year 2023, Apple spent \$30 billion on research and
25 development – and \$77 billion on stock buybacks.

26 **FACTUAL ALLEGATIONS**

27 **I. APPLE AND THE SMARTPHONE INDUSTRY**

28

1 **A. Against the Backdrop of *United States v. Microsoft*, Apple Launched the iPod,**
 2 **iTunes, and the iTunes Store**

3 28. In 2001, Apple introduced iTunes, a software built on Apple's QuickTime
 4 architecture and advertised it as a "Jukebox Software" for organizing and listening to music. The
 5 initial version of iTunes was only compatible with Apple's Mac computers. Later in the year, Apple
 6 launched the iPod, a portable digital audio player that worked alongside iTunes to "let[] you put
 7 your entire music collection in your pocket and listen to it wherever you go." Similar to iTunes,
 8 this version of the iPod was only compatible with Mac computers. The iPod was designed to look
 9 sleek and, in later iterations, colorful, to replace the heavier alternative music listening systems like
 10 CD players.

11 29. In October 2003, a consent decree was entered in the case of *United States v.*
 12 *Microsoft*, which in part required Microsoft to make various APIs available to third-party
 13 developers, including Apple. This opened the Windows platform gates for Apple and introduced it
 14 to millions of new consumers.

15 30. In light of this development, Apple launched a cross-platform version of iTunes that
 16 made it possible to run iTunes on the Windows operating system. Unsurprisingly, this resulted in
 17 an exponential increase in the iPod and iTunes customer base. Although Apple only sold a few
 18 hundred thousand devices in the first two years after launching the iPod, a year after the Windows-
 19 compatible version of iTunes was introduced, Apple sold millions of devices. Over the next two
 20 decades, Apple would sell hundreds of millions of iPod devices and iTunes would become the
 21 market leader in online music services. As stated by Apple's then-CEO at an event in 2007, "it
 22 didn't just change the way we all listened to music, it changed the entire industry."⁶

23 31. Apple's success with the iPod and iTunes was possible in part because of *United*
 24 *States v. Microsoft*. However, after launching the iPhone, Apple turned around and became a
 25 gatekeeper like Microsoft and stifled the development of cross-platform technologies on the
 26 iPhone. In fact, impeding cross-platform technologies would become a crucial part of Apple's
 27 monopoly creation and maintenance arsenal.

28 ⁶ DOJ Complaint, ¶33.

1 32. In January 2007, Apple debuted the first-generation of iPhones, describing the
2 device as “an iPod, a phone, and an internet communicator.”⁷ In its marketing, Apple focused on
3 the iPhone being a smartphone that was easy to use. This original iPhone cost approximately \$299,
4 which is approximately \$450 today after accounting for inflation.

5 33. Initially, nearly all of the native apps for the iPhone were created by Apple. This
6 included about a dozen apps such as Calendar, Camera, Clock, Contacts, iPod, Messages, Notes,
7 Phone, Photos, Safari, Stocks, Voice Memos, and Weather.

8 34. However, within a year of launching the iPhone, Apple realized the economic
9 opportunity by inviting third-party developers to create native apps for the iPhone. Apple released
10 its first software development kit, which include the digital tools for building native apps on
11 Apple’s operating system, known as iOS. Apple also offered developers the opportunity to earn
12 money by selling apps and later in-app purchases and subscriptions designed for use on the iPhone.
13 Reflecting the importance of third-parties to its business playbook, by 2009, Apple had a
14 trademarked slogan: “There’s an app for that,” which underscores the value that third-party apps
15 provided to iPhone users. In fact, inviting third-party developers on its iPhone platform generated
16 billions of dollars in profits for Apple and created an iPhone user base of more than 250 million
17 devices in the United States.

18 35. However, Apple executives understood that third-party products and services could
19 be “fundamentally disruptive” to its smartphone monopoly by decreasing users’ dependence on
20 Apple and the iPhone and increasing competitive pressure on Apple. If Apple did not utilize its
21 monopoly power to worsen third-party apps on iPhones, users would have been more likely to rely
22 on those third-party apps instead of Apple’s proprietary apps. Doing so would allow users to feel
23 less dependent on the iPhone and the apps only available through Apple App Store and be more
24 willing to switch to another smartphone. Therefore, Apple intentionally sacrificed short-term
25 benefits of improved products and services developed by third parties and created additional walls
26 within its garden when it was necessary, in order to maintain its monopoly.

27
28 ⁷ *Id.*, ¶35

B. After Inviting Third-Party Investment on the iPhone, Apple Imposes Tight Controls on App Creation and App Distribution for Its Own Benefit

36. As Apple opened its platform to third-party developers and welcomed in swarms of outsiders to its “walled garden,” Apple executives began fearing activities that sidestepped, or “disintermediated,” its platform and would threaten Apple’s profits from iPhone sales and related revenue streams.

37. Despite inviting third-party developers onto its platform, Apple controls how an app is created, developed, and distributed. One way that Apple does this by only allowing developers to distribute native iPhone apps through Apple’s App Store. By limiting distribution to the Apple App Store, Apple is able to exert its monopoly power over developers by imposing contractual restrictions and rules that limit the behavior of non-Apple apps and services. More specifically, Apple does this by setting the conditions for apps allowed on the App Store through its App Store Review Guidelines. These guidelines give Apple sole discretion to review and approve all apps and app updates. Apple ensured that it was the sole gatekeeper to the developers allowed into the iPhone walled garden.

38. In fact, Apple makes the Apple App Store the sole source of distribution for apps on the iPhone even though this is detrimental to users and developers. For example, creation of alternative app stores would allow for ones focused on use by children, which would offer ample opportunities to improve privacy, security, and child safety. Apple itself has displayed that this technology is possible by allowing certain enterprise and public sector customers to offer versions of app stores with more curated apps with better privacy and security.

39. Apple weaponizes the contractual restrictions mechanism to exercise discretion for its own benefits with regards to app creation and distribution. Apple executives can deviate from or change its guidelines when it suits its own interests and can control app reviews and decide whether to approve individual apps or updates.

40. Another way Apple controls app creation is by deciding which APIs are available to third-party app developers. For example, Apple forces developers to enter into its non-negotiable Developer Program License Agreement (“DPLA”), which requires developers to use public APIs

1 only “in the manner prescribed by Apple.” The DPLA also prohibits the third-party app from using
2 private APIs—a designation made by Apple. This capability allows Apple to limit the functionality
3 third-party app developers can offer to iPhone users so that even when a functionality is available
4 on Apple’s own apps, it is unavailable to third-party apps. More generally, this allows Apple to
5 make its own apps seem more appealing by offering features unavailable in competing apps. As
6 with Apple’s App Store restrictions, Apple utilizes DPLAs to penalize and restrict developers from
7 taking advantage of technologies that threaten to disrupt, disintermediate, compete with, or erode
8 Apple’s monopoly power. One clear example of Apple utilizing API availability is where Apple
9 prohibits third party apps from sending or receiving SMS text messages, although this functionality
10 is available through Apple Messages (“iMessages”).

11 41. These controlling mechanisms make it so that neither app developers nor iPhone
12 users can benefit from lower cost or higher quality means of distributing apps or purchasing and
13 providing digital products and services. The mechanisms have guaranteed that Apple will continue
14 to benefit from contributions of third-party developers and other platform participants while also
15 protecting itself from the competitive threats and pressure to Apple’s smartphone monopoly.

16 **C. The Smartphone Platform Benefits from Being Open**

17 42. Smartphones are platforms that bring together different groups that benefit from
18 mutual participation on the platform. This platform allows for various groups like restaurants,
19 ridesharing and banks to communicate seamlessly with customers. However, smartphones also
20 offer consumers non-transactional abilities, such as their features and functionalities.

21 43. The smartphone platform benefits from being more open –the economics are such
22 that the platform’s value to users and platform operator increases when new apps and features are
23 added to the platform. This is why Apple has opened its walled garden to third-party developers,
24 who offer countless inventions and innovations, which derive enormous value for Apple. For
25 example, when a third-party developer creates a valuable new feature, consumers benefit and
26 consumer demand goes up for Apple’s products, increasing the economic value of the iPhone.

27 44. On the other hand, limiting features and functionalities created by third-party
28 developers makes the iPhone worse and deprives Apple of the short-term economic value it would

1 have gained as the platform operator. If Apple did not interfere with these third-party developers,
2 more apps and updates would have paid the 30% tax to Apple, as described below, and more users
3 would have utilized the apps in light of the increased functionalities, therefore potentially spending
4 more on in-app purchases or subscriptions. The only economic reason for Apple to sacrifice these
5 potential profits is to protect its monopoly profits.

6 **D. Smartphone Hardware**

7 45. A smartphone is comprised of hardware and software. A smartphone's hardware
8 includes many physical elements, such as the screen, battery, camera, processor, and memory.
9 These components provide basic functions and capabilities for the phone, such as displaying
10 images, storing data, capturing photos, or making calls. Higher performing smartphones are
11 typically constructed with better material like glass or titanium instead of plastic, are manufactured
12 to higher durability standards, and have superior quality displays.

13 46. A smartphone's hardware also includes the semiconductor chipsets that run the
14 smartphone and provide central processing of software instructions, graphics, video, display,
15 memory, data storage, and connection to networks. Higher-end smartphones have chipsets that
16 offer superior performance such as faster processing and network connections, better graphics, and
17 more storage. These superior smartphones also typically have higher quality cameras, longer
18 battery life, position and motion sensors, wireless charging, and advanced biometrics, such as face
19 identification.

20 47. In the United States, approximately 94% of all smartphones by revenues are created
21 by three manufacturers: Apple, Samsung, and Google. Specifically, Apple and Samsung account
22 for approximately 90% of all smartphone revenues in the United States. In the US market for
23 performance smartphones, Apple estimates its market share as exceeding 70%.

24 48. Another element of a smartphone's hardware is the bundle of antennas that allow
25 the phone to communicate with other smartphones, accessories, or other devices using standard
26 communication protocols, such as Wi-Fi, Bluetooth, and Near-Field Communications ("NFC").
27
28

E. Smartphone Operating Systems, Applications, and Other Software

49. Smartphones also require software components that drive the non-physical workings of the smartphone, such as the operating system, apps, games, and settings. Software is the component responsible for instructing the hardware on what to do and how to do it, such as launching apps, adjusting brightness, connecting to Wi-Fi, and playing games.

50. The most crucial software component is the smartphone's operating system. This is the foundational software that manages both the hardware and other software programs. Apple has preloaded all iPhones with its proprietary and exclusive operating system known as the "iOS." In the United States, the only other significant smartphone operating system is Android, developed by Google. Android works with smartphones manufactured by Samsung, Google, Motorola, and other smartphone manufacturers.

51. The smartphone's operating system is fundamental to allowing apps to function. For example, to play a video game, apps must communicate with a smartphone's operating system to access various hardware components on the phone such as the screen, speakers, and processors. More technically, apps communicate with the operating system through APIs.

52. Native apps refer to apps that work with a particular smartphone operating system. Therefore, Apple's native iOS apps work with iPhones and native Android apps work with Android smartphones.

53. Most developers create two native apps, for both iOS and Android, to reach the greatest number of smartphones because they do not view Android as a substitute for iOS or vice versa. The overwhelming majority of users opt for a single phone and do not "multi-home" by carrying both an Android phone and iPhone simultaneously. Therefore, if a developer does not create two native apps, it would not be able to reach iPhone users on the native Android app or Android users on native iOS apps. In fact, developing for both platforms is often necessary for developers to reach the scale they need to be available.

54. Developing for both platforms is also growingly important because more apps are "social" in nature and require users on both platforms to optimally perform. For example, the developer of a dating app must develop a native Android and native iOS app to allow iPhone users

1 to meet Android users, and vice versa. As another example, a money-sharing app must enable users
2 on Android smartphones to send money to users on iPhones, and vice versa.

3 55. Typically, app developers provide a similar user experience for native apps on
4 iPhones and Android smartphones to minimize the resources and risks of maintaining different
5 features across different smartphones. However, because developers must program native apps to
6 run on specific operating systems, the two native apps do not always interoperate or synchronize
7 across different operating systems.

8 56. One software innovation that circumvents this is a “middleware,” which is software
9 that provides similar APIs and functionality across a diverse set of operating systems and devices.
10 Importantly, this allows developers to create cross-platform applications without writing separate
11 code for different operating systems or devices by allowing developers to rely on APIs exposed by
12 the middleware rather than relying on the APIs that only work on specific operating systems or
13 devices. Apple has long recognized that middleware helps promote competition and offers other
14 benefits such as increased innovation and output, by increasing scale and operability. Examples of
15 middleware for smartphones include internet browsers, internet or cloud-based apps, super apps,
16 and smartwatches. However, there are certain other products and services that do not meet the
17 technical definitions of middleware but still have the same economic impact as middleware, such
18 as eliminating the added expense of porting a product or experience across hardware or operating
19 systems. For the purposes of this complaint, middleware refers to both technical middleware and
20 to products and services that, while not technically middleware, have the same effects.

21 57. There are also cloud-based technologies that are run using hardware and software in
22 remote computing centers, known as “the cloud,” rather than by hardware and software on a
23 smartphone. Cloud-based technologies are revolutionary in that they allow users to experience
24 technology on the phone by executing users’ commands, which require complex computing, in the
25 cloud instead of relying on less capable hardware. This delivers a rich experience for users on
26 smartphones that would otherwise be unavailable with the hardware that iPhones currently contain.
27 Furthermore, these technologies offer a rich experience for users with smartphones that have
28 inferior hardware than that in iPhones.

II. RELEVANT MARKETS FOR IPHONES

58. Although all smartphones compete against each other in a broad relevant market, industry participants, including Apple, assess competition among smartphones in narrower markets best understood as submarkets of the larger all-smartphone market. Upon information and belief, Apple does not consider entry-level smartphones as competing with the iPhone and other “performance smartphones.”⁸ Thus, Apple chooses not to compete to sell new smartphones in the entry-level tier. However, regardless of how the market is drawn, Apple’s conduct is unlawful.

A. Performance Smartphones are a Relevant Product Market

59. Performance smartphones are a narrower relevant product market within the broader smartphone market that includes smartphones that compete with most iPhones and excludes the lowest-end smartphones, often referred to as “entry-level” smartphones (the “Performance Smartphone Market”). Industry participants recognize performance smartphones as distinct and distinguish and market phones in tiers that include entry-level and higher tiers, such as “premium” or “flagship.”

60. Performance smartphones have distinct characteristics and uses as compared to other smartphones. Unlike entry-level smartphones, performance smartphones are made of higher-quality materials (*e.g.*, metal and glass instead of plastic) and are more durable. They also have more expensive and high-performance components, such as faster processor, higher-capacity storage, and longer battery life. This allows users to run more intensive applications or store large volumes of data on the device. Also, unlike typical entry-level smartphones, performance smartphones contain features such as the NFC antenna, which allows consumers to use their smartphone to make payments or access public transit passes.

61. Practically, consumers typically purchase performance smartphones under different terms and conditions than entry-level smartphones. These lower-tier smartphones generally come along with pre-paid service plans. By contrast, consumers usually purchase performance smartphones for use with post-paid service plans that include promotional discounts to consumers who purchase performance smartphones.

⁸ *Id.*, ¶167.

1 62. Considering these differences, among others, between entry-level and performance
2 smartphones, entry-level smartphones are not reasonable substitutes for performance smartphones.
3 Furthermore, competition from non-performance smartphones is not sufficient to prevent Apple
4 from exercising monopoly power in the performance smartphone market.

5 **B. Smartphones are a Broader Relevant Product Market**

6 63. Smartphones are a relevant product market (the “Smartphone Market”). They are
7 distinct from phones with less capable hardware and software options. These less capable phones,
8 sometimes labeled “feature phones,” may offer basic web browsing, calling, and messaging
9 options, but do not offer the wide breadth of access to the internet or third-party apps as
10 smartphones do. Feature phones also often have lower-quality hardware, such as poorer displays,
11 less capable cameras, and rely on antiquated physical keyboards instead of smartphone touch
12 screens. Thus, feature phones are not reasonable substitutes for smartphones.

13 64. Smartphones are also distinct from other portable devices like tablets, smartwatches,
14 and laptop computers. Although some of these devices offer similar capabilities, they lack the
15 combination of function, size, and portability that consumers rely on in smartphones. Thus, none
16 of these products are reasonable substitutes for smartphones.

17 65. Participants in the market, including Apple itself and the public, recognize that
18 smartphones are distinct from feature phones and other portable devices. Moreover, competition
19 from feature phones, or other alternatives, is not sufficient to prevent Apple from exercising
20 monopoly power in the smartphone market.

21 **C. The United States is a Relevant Geographic Market for Performance**
22 **Smartphones and Smartphones**

23 66. The United States is a relevant geographic market for the sale of performance
24 smartphones and smartphones. Smartphone users in the United States demand services offered by
25 United States retailers when they purchase a smartphone. Furthermore, a smartphone purchased
26 abroad for use in the United States may be incompatible with the consumer’s domestic carrier, may
27 lack the necessary radio technology to take advantage of the carrier’s highest speed connections,
28

1 may not be offered the carrier's support during setup or subsequently, or may have invalid
2 warranties on the phone.

3 67. Consumers must also utilize United States retailers to purchase smartphones if they
4 want to take advantage of valuable promotions offered by mobile carriers. These same promotions
5 and financial benefits, such as free financing, are not available to United States consumers who
6 purchase their phones in other countries.

7 68. Also, potential new smartphone entrants to the United States market must also
8 comply with telecommunications regulations and satisfy other legal requirements. Although there
9 is no regulatory framework governing how Apple operates its platform with respect to developers,
10 there are various regulatory requirements that must be met in order to enter the smartphone market.
11 For example, some smartphone makers, like Chinese manufacturer Huawei, are effectively barred
12 from offering their smartphones to United States consumers.

13 69. Therefore, consumers in the United States could not avoid or defeat an increase in
14 the price of performance smartphones or smartphones by purchasing and importing smartphones
15 from abroad. This allows Apple to set prices for the same smartphones in the United States at
16 different prices abroad. For example, when faced with greater competitive pressure in part due to
17 super apps, Apple was unable to command the same prices for the iPhone in China and therefore
18 lowered the price of the iPhone 11 in China relative to the United States.

19 **D. Apple Has Monopoly Power in the Performance Smartphone and Smartphone**
20 **Markets**

21 70. Apple's monopoly power in the Smartphone and Performance Smartphone Markets
22 is exemplified by its ability to control prices or exclude competition in each of them. The price of
23 an iPhone has increased significantly over the years – when released in June 2010, an iPhone cost
24 \$199, today an iPhone can cost up to \$1,499. Furthermore, Apple is able to extract profit margins
25 that are nearly double that of its few competitors.

26 71. Apple also enjoys substantial and durable market shares in these markets. Over the
27 last decade, Apple has increased its share of smartphones sold in the United States most years.
28 During this time, Apple collected over half the revenue for all smartphones sold in the United

1 States. Specifically, Apple accounts for over 70% of the Performance Smartphone Market and over
 2 65% of the broader Smartphone Market, which likely understates its monopoly power today.

3 72. An example of Apple’s monopoly power can be seen by the fact that the lack of
 4 multi-homing among users has necessitated multi-homing among developers (creating two native
 5 apps). This market reality further increases the power that Apple is able to exercise over developers
 6 that seek to reach users on smartphones – especially performance smartphones that run
 7 sophisticated apps.

8 73. Another example of Apple’s monopoly power can be seen by Apple’s profits and
 9 profit margins for nearly every aspect of the iPhone. Apple’s per-unit smartphone profit margins
 10 are far more than its next most profitable rival. Also, Apple charges carriers substantially more than
 11 its competitors to buy and resell iPhones to the public and employs contract clauses that impede
 12 the ability of carriers to promote rival smartphones, unbeknownst to consumers. Most notably,
 13 Apple has a hungry gorilla guarding the Apple App Store that extracts fees from developers – as
 14 much as 30% when users purchase apps or make in-app payments. The walls in the iPhone walled
 15 garden also allows this Apple gorilla to extract 0.15% commission from banks on credit card
 16 transactions through its digital wallets, while none of its competitors with digital wallets charge
 17 any fee. The profits for Apple are exorbitant. Apple predicts that by 2025, it will collect nearly \$1
 18 billion in worldwide revenue on “Apple Pay” fees alone. However, this is only the start of this
 19 market. The United States Consumer Financial Protection Bureau suggests these revenues will only
 20 increase, as “analysts expect the value of digital wallet tap-to-pay transactions will grow by over
 21 150 percent by 2028.”⁹ Apple also increasingly charges developers additional fees to promote their
 22 apps in the App Store. In fact, this is one of the fastest-growing facets of Apple’s services business,
 23 with revenue “increasing by more than a third to \$4.4B in FY 2022.”¹⁰

24 74. Apple’s monopoly power is further protected by significant barriers in entry,
 25 network effects, and switching costs. Apple recognizes and exploits these protections to fight
 26 competition from rival platforms and innovations, products, and services that potentially diminish

27 ⁹ *Id.*, ¶188.

28 ¹⁰ *Id.*, ¶189.

1 consumer dependence on the iPhone. For example, because fewer than 10% of smartphone
2 purchasers in the United States are buying their first smartphone, rivals are forced to encourage
3 existing iPhone users to switch from using an iPhone to using another smartphone when they
4 replace or upgrade their phone. As a result, switching costs and frictions, which are often created
5 or exacerbated by Apple, impose substantial barriers to entry and expansion for rival smartphones.
6 This wall is increasingly impenetrable. Nearly 94% of iPhone owners in the United States replace
7 their iPhone with another iPhone; nearly 98% of iPhone users on one United States carrier network
8 replace or upgrade their iPhone in a given quarter by buying another iPhone. The increasing costs
9 and burdens to leaving Apple's walled garden that consumers experience due to Apple's conduct
10 further underpins these exceedingly high retention rates. Dauntingly, Apple's monopoly power will
11 likely increase over time.

12 75. Another example of a barrier to entry, expansion, or repositioning is that introducing
13 a new smartphone requires significant investment in acquiring expensive and scarce components
14 such as mobile chips and specialized glass for screens. Other walls include product design, software
15 development, regulatory approval, manufacturing, marketing, and customer service. Also, new
16 entrants and smaller rivals must negotiate distribution agreements and persuade carriers and
17 retailers to promote their products to consumers.

18 76. An example of high switching costs and frictions is exemplified when an iPhone
19 user wants to buy an Android smartphone and is likely to face significant financial, technological,
20 and behavioral obstacles to switching. The user may need to transfer large amounts of data,
21 integrate themselves with operating a new interface, purchase new apps, or transfer or buy new
22 subscriptions and accessories. Notably, the switching costs and frictions are higher when software
23 applications, APIs, and other functionalities are not cross-platform or are interoperable. These high
24 switching costs and frictions increase the "stickiness" of the iPhone and make users more behold
25 to Apple and its iOS system.

26 77. Notable, prominent companies have tried and failed to successfully enter the
27 relevant markets because of these entry barriers. For example, Amazon released its version of a
28 smartphone in 2014 but due to the unsustainability of its business exited the market the following

1 year. Microsoft shut down its mobile business in 2017. In September of that year, HTC also exited
 2 the market by selling its smartphone business to Google. Recently, LG exited the smartphone
 3 market in 2021. The only meaningful competitors to Apple in the United States smartphone market
 4 are Samsung and Google. Even so, the walls of Apple’s garden are so high and cemented that
 5 Google is a distant third despite controlling development of the Android operating system.

6 78. Direct indicia separately demonstrate Apple’s monopoly power. For example, Apple
 7 can and does profitably forego innovation without fear of losing customers to competitors. Apple’s
 8 own vice president of iPhone marketing explained in February 2020: “In looking at it with
 9 hindsight, I think going forward we need to set a stake in the ground for what features we think are
 10 ‘good enough’ for the consumer. I would argue were [sic] already doing *more* than what would
 11 have been good enough.”¹¹ After identifying old features that “would have been good enough today
 12 if we hadn’t introduced [updated features] already,” she explained, “anything new and especially
 13 expensive needs to be rigorously challenged before it’s allowed onto the consumer phone.”¹²
 14 Apple’s ability and decision to offer only what is “good enough” is only possible because it
 15 unlawfully violates antitrust laws and monopolizes the relevant markets.

16 79. All of these indicia, which are only a few examples, are direct evidence of Apple’s
 17 monopoly power in the relevant markets.

18 **III. APPLE UNLAWFULLY MAINTAINS ITS MONOPOLY POWER**

19 80. Apple is able to unlawfully maintain its monopoly power by enforcing these
 20 restrictions because of its position as the sole gatekeeper to the iPhone walled garden and as an
 21 intermediary between product developers and users.

22 **A. Apple Harms Competition by Weaponizing Contractual Restrictions, Fees, and** 23 **Taxes on App Creation and App Distribution**

24 81. As the Department of Justice exposed, soon after introduction of the iPhone and
 25 despite its success, Apple executives feared the disintermediation of its platform and the
 26 commoditization of the iPhone would threaten the Company’s significant profits from the iPhone

27 ¹¹ *Id.*, ¶187.

28 ¹² *Id.*

1 and related revenue streams.¹³ To combat this fear, Apple weaponized and continues to wield its
2 control of app creation and distribution in crucial cases to reinforce the roles of the iPhone and the
3 Apple App Store as the primary gatekeepers to apps, products, and services.

4 82. Outwardly, Apple claims that these rules and restrictions are necessary to protect
5 user privacy or security. In reality, Apple imposes certain restrictions for the benefit of the
6 Company's profits by thwarting direct and disruptive competition for its iPhone platform fees
7 and/or for the importance of the iPhone platform itself. These restrictions create walls that allow
8 Apple's gorilla to maintain and regulate the iPhone walled garden.

9 83. Apple's efforts to protect and exploit its monopoly power have three notable effects.
10 First, Apple is able to influence the direction of innovation both on and off the iPhone. Apple does
11 this by utilizing its control over app distribution and creation to dictate how developers innovate
12 for the iPhone and enforcing rules and contractual restrictions to hinder or outright halt developers
13 from innovating in ways that threaten Apple's power. Second, Apple increases the cost and adds
14 friction to switching from the iPhone to another smartphone and generates exorbitant profits from
15 subscription services like Apple's proprietary music, gaming, cloud storage, and news services.
16 The Company does this by driving iPhone users away from products and services that compete
17 with or threaten Apple's own products. Third, Apple acts as an unruly landlord of its walled garden
18 because Apple uses these restrictions to extract monopoly rents from third parties in several ways,
19 including app fees and revenue-sharing requirements. For most of the past 15 years, Apple extracted
20 a tax in the form of a 30% commission on the price of any app that is downloaded from its only
21 available Apple App Store. Although the Company has reduced this tax for a limited subset of
22 developers, Apple continues to receive the 30% from many app makers. Apple also charged fees
23 for developers to access the necessary tools to develop iPhone native apps.

24 84. Furthermore, despite telling developers that part of the reason for the 30% tax was
25 for helping users find their apps in the App Store, Apple generates an increasing and substantial
26 revenue by charging developers for this facilitation. One example is how Apple sells keyword
27 searches for an app to parties other than the owner of the app. Through its monopoly power, Apple

28 ¹³ *Id.*, pp. 3-4.

1 is able to command these rents from companies of all sizes, including some of the largest and most
2 sophisticated companies in the world.

3 85. As Apple controlled app distribution and creation, Apple flaunted its own iPhone
4 innovation and extracted more revenue and profit from existing customers through subscriptions,
5 advertising, and cloud services. These services further increase the cost of leaving the iPhone
6 walled garden because many of these services, including its proprietary gaming, cloud storage, and
7 news services, are exclusive to the Apple ecosystem and therefore unavailable to users who switch
8 to another smartphone. While this is aligned with the increased “stickiness” business strategy the
9 Company is keen on achieving, it causes significant friction for iPhone users attempting to leave
10 the walled garden.

11 86. Notably, Apple’s conduct demonstrated that the Company recognized the
12 importance of digital products and services for the success of the iPhone, while simultaneously
13 restricting the development and growth of non-iPhone products and services—especially those that
14 would ease users to switch to a non-iPhone.

15 87. Each step in Apple’s course of conduct built and reinforced the walls around its
16 performance smartphone and smartphone monopoly. The cumulative effect has been to maintain
17 and entrench its monopoly at the expense of users, developers, and other third parties who helped
18 make the iPhone what it is today. Despite major technological changes and innovations over the
19 years, Apple’s method of maintaining its monopoly has largely remained the same, unconstrained
20 by competitive pressures or market forces. This imperviousness reflects the success of Apple’s
21 efforts to create and maintain its monopoly, the strength of that monopoly, and the durability of the
22 Company’s power. However, this monopoly is only possible due to Apple’s unlawful conduct.

23 88. Although Apple’s monopoly maintenance has taken many forms and continuously
24 evolves, its anticompetitive and exclusionary course of conduct is exemplified by its contractual
25 rules and restrictions targeting key products and services: super apps, cloud streaming apps,
26 messaging apps, video messaging/conferencing apps, smartwatches, and digital wallets. Apple
27 unlawfully fortifies its walled garden around its performance smartphone and smartphone
28 monopoly by constraining these technologies instead of competitively innovating and making

Apple products more attractive to users. In fact, regardless of the profits for the Company and the detriment to users and developers, Apple discourages innovation that threatens its monopoly or the disintermediation of the iPhone. Moreover, the cumulative anticompetitive effect of Apple's conduct is even more powerful than that of each exclusionary act as Apple continues to expand and shift the scope and categories of its unlawful anticompetitive conduct.

1. Super Apps: Apple Maintains its “Walled Garden” by Undermining Mini Programs that Threatened to Reduce User Dependence on the iPhone

89. For years, Apple refused to allow its users access to super apps because the Company viewed them as “fundamentally disruptive” to “existing app distribution and development paradigms,” and ultimately, to its monopoly power.¹⁴ Apple's fear was rooted in its recognition that as super apps increased in popularity, “demand for the iPhone is reduced.”¹⁵ In response, instead of competing on the merits, Apple fortified its control by building walls within its monopoly garden to prohibit app developers from offering super apps.

90. A super app is a single application that provides multiple services, like payment and instant messaging services, that effectively becomes an all-encompassing, self-contained commerce and communication platform embracing many aspects of personal and commercial life. Some examples of super apps include Tencent's WeChat in China, KakaoTalk in Korea, Tata Neu in India, and Grab in Southeast Asia.

91. Technically, a super app is a threat to Apple's monopoly power because it is a form of middleware that is able to host apps, services, and experiences without requiring developers to use the iPhone's APIs or code. Moreover, the more a user interacts with a specific super app, the less they are forced to rely on the smartphone's proprietary software. This reduces frictions for a user when they consider switching to a non-iPhone and make users more willing to opt for a different smartphone because they are able to access the same interface, apps, and contents by simply downloading the same super app. These super apps also allow developers to code mini programs that run on the super app itself, without requiring them to write separate apps for iPhones

¹⁴ *Id.*, ¶60.

¹⁵ *Id.*

1 and other smartphones. As one Apple executive put it, “who doesn’t want faster, easier to discover
2 apps that do everything a full app does?” Restricting super apps is not only detrimental to users and
3 developers, but also requires Apple to sacrifice short-term profitability for iPhones.

4 92. Put simply, super apps lower barriers to entry for smartphone rivals, decrease
5 Apple’s control over third-party app developers, and reduce switching costs for users. Importantly,
6 Apple recognizes that super apps with mini programs would threaten its monopoly. One Apple
7 manager stated that allowing super apps to become “the main gateway where people play games,
8 book a car, make payments, etc.” would “let the barbarians in at the gate.” How? Because when a
9 super app offers popular mini programs, “iOS stickiness goes down.”¹⁶

10 93. Apple was confronted with its fear of super apps with enormously popular ones in
11 Asia, such as the one that required it to competitively reduce its cost of iPhone 11 in China. Apple
12 does not want and will actively stop US companies and users from reaping the benefits of super
13 apps. Its awareness was made clear in a Board of Directors presentation where Apple highlighted
14 the “[u]ndifferentiated user experience on [a] super platform” is a “major headwind” to growing
15 iPhone sales in countries with popular super apps due to the “[l]ow stickiness” and “[l]ow switching
16 cost.” More generally, in 2017, Apple highlighted as a risk that a potential super app created by a
17 specific United States company would “replace[] usage of native OS and apps resulting in
18 commoditization of smartphone hardware.”¹⁷

19 94. Instead of competing on its merits and innovating to the risk that super apps posed
20 to its monopoly, Apple mechanized its control over app distribution to hinder others’ innovation.
21 Apple created, strategically broadened, and aggressively enforced its App Store Guidelines to
22 effectively block apps from hosting mini programs. This allowed Apple to degrade the quality of
23 super apps on the iPhone platform and made the apps less attractive for iPhone users. As a result,
24 US companies were disincentivized from investments in mini program development and abandoned
25 or limited support for the technology in this country.

26
27
28 ¹⁶ *Id.*, ¶65.

¹⁷ *Id.*, ¶66.

95. One specific example is how Apple targeted and deteriorated one of the super apps' valuable assets: the ease of finding and using mini programs instead of using an app store and navigating various separate apps, passwords, and set-up processes. Instead of making mini program discovery easy for users, Apple intentionally made it nearly impossible. Since at least 2017, Apple arbitrarily imposed exclusionary requirements that unnecessarily and unjustifiably restricted mini programs and super apps. One way Apple did this was by requiring apps in the US to display mini programs using a flat, text-only list of mini programs. Another way was by banning the display of mini programs with icons or tiles, such as descriptive pictures of the content or service offered by the mini program. Apple also prohibited apps from categorizing mini programs, such as by displaying recently played games or more games by the same developer. These restrictions deteriorated the popularity of mini programs and notably made the iPhone worse because it discouraged developers from creating apps and other content that would be attractive to users.

96. Apple also intentionally hurt both users and developers by selectively enforcing its contractual rules with developers to prevent them from monetizing mini programs. For example, regardless of whether a developer was willing to pay Apple's monopoly tax, the Company blocked mini programs from accessing the necessary APIs to implement Apple's in-app payment (IAP) system. Apple also blocked developers from being able to use IAP methods other than directly using Apple's IAP. Apple also blocked super apps from creating a virtual currency for consumers to use in mini programs. However, with less-threatening apps that are non-super apps, Apple permits these same functionalities.

2. Cloud Streaming Apps: Apple Prevented Developers From Offering Cloud Gaming Apps that Threatened Apple's Monopoly on Hardware

97. For years, Apple prohibited cloud gaming apps that would have allowed users access to desirable apps and content without paying for Apple's expensive hardware, because doing so threatened its monopoly power. According to Apple, it feared a world where "all that matters is who has the cheapest hardware" and consumers could "buy[] a [expletive] Android for 25 bux at a garage sale and...have a solid cloud computing device" that "works fine."¹⁸ In comparison, an

¹⁸ *Id.*, ¶71.

1 iPhone costs up to \$1,499. However, Apple’s conduct degraded its own product because consumers
2 missed out on valuable apps and content. Moreover, its conduct cost Apple significant revenues
3 from app developers. Simultaneously, Apple made other smartphones worse by hindering the
4 growth of these cross-platform apps on other smartphones. Most notably, Apple’s anticompetitive
5 conduct prevented the emergence of valuable technologies that could lower the price that
6 consumers pay for iPhones.

7 98. Cloud streaming apps are groundbreaking in that they allow users to run a
8 computationally intensive program without having to locally store or process the program on the
9 smartphone. Instead, a user’s smartphone relies on remote computer servers, otherwise known as
10 “the cloud,” and the computing power of those remote servers to run the program and stream the
11 results back to the phone. This allows developers to offer cutting-edge technologies and services to
12 smartphone consumers in areas like gaming and interactive artificial intelligence, even if their
13 smartphone includes hardware less powerful than an iPhone.

14 99. This technology had significant benefits for users. For example, one of Apple’s key
15 promotions for the iPhone 15 is that its hardware is powerful enough to enable “next-level
16 performance and mobile gaming.” But, with cloud streaming apps, such capability is simply
17 unnecessary. By utilizing cloud software, cloud gaming apps deliver rich gaming experiences on
18 smartphones without requiring users to purchase powerful but expensive hardware. This reduces
19 the friction for users to switch from an iPhone to any less expensive hardware, because both
20 smartphones can run desirable games equally well.

21 100. This technology also offers significant advantages for developers. For example,
22 instead of having to write multiple different codes for one game to run on multiple operating
23 systems, cloud platforms act as middleware and allow developers to create a single app that could
24 run across iOS, Android, and other operating systems. Furthermore, cloud streaming provides more
25 and simpler options for offering subscriptions, collecting payments, and distributing software
26 updates. These benefits, among many others, help game developers reach economies of scale and
27 profitability that they might not achieve without offering cloud gaming apps. However, this
28

1 capability threatens Apple's monopoly by reducing app developers' reliance on iOS and the Apple
2 App Store.

3 101. To combat this threat, Apple created another wall within its garden by requiring that
4 any cloud streaming game and any update to such game be submitted as a stand-alone app for
5 approval by Apple. Such an onerous requirement increased the cost of releasing games on the
6 iPhone and limited the number of games a developer could make available to iPhone users. This
7 burden is exponential considering that the highest quality games, known as AAA games, typically
8 require daily or even hourly updates across different platforms. Practically, this requirement meant
9 that developers must either delay their software updates across all platforms or only update their
10 games on non-iOS platforms, which would potentially make the iPhone version of the game
11 incompatible with the versions on other platforms until Apple approves the update. Neither option
12 is viable for players or developers and prevents both parties from benefiting from this technology.

13 102. Other walls Apple created to undermine cloud gaming apps include requiring them
14 to use Apple's proprietary payment system and forcing game overhauls and payment redesigns
15 specifically for the iPhone. Apple's rules and restrictions effectively required developers to create
16 separate iOS-specific versions of their app instead of creating a single, cloud-based version that is
17 compatible on several operating systems. This requires developers to expend considerable time and
18 resources re-engineering apps to bring cross-platform apps like multiplayer games to the iPhone.
19 In other instances, these walls simply stopped developers from releasing their games on the iPhone,
20 which is detrimental to all parties involved.

21 103. In fact, this has resulted in several immensely popular cloud streaming apps to be
22 available to non-iPhone users on the Android platform but not to iPhone users on Apple's App
23 Store. For example, an app called Loco has over 10 million downloads on the Android platform but
24 is not available on Apple's App Store. Similarly, popular apps such as Bikii Cloud Game,
25 Loudplay, Parsec, and Antstream, each have over a million downloads on Android but are not
26 available on Apple's App Store. Apple intentionally sacrifices significant potential revenue streams
27 to further protect its smartphone walled garden. Furthermore, by not offering these apps, the iPhone
28 becomes less valuable to potentially interested iPhone users.

104. Facing the threat to its smartphone monopoly, Apple effectively prevented app developers from offering cloud gaming subscription services as a native app on the iPhone by utilizing its control over app distribution. Even today, none are available on the iPhone.

105. Cloud streaming apps, even outside of gaming, would force Apple to compete more vigorously against rivals and Apple was aware of this. As one Apple manager recognized, cloud streaming eliminates “a big reason for high-performance local computer” and thus eliminates one of the iPhone’s big advantages over other smartphones because then “all that matters is who has the cheapest hardware.”¹⁹ In fact, this problem does not “stop at high-end gaming” but applies to “a number of high-computer requirement applications.”²⁰ Therefore, regardless of the benefits it offered for users and developers, and the substantial short-term profits it offered for Apple, the Company leveraged its monopoly power to hinder cloud streaming apps.

B. To Protect Its Monopoly and Control Third Parties, Apple Utilizes APIs and Other Critical Access Points in the Smartphone Ecosystem

1. Messaging: Apple Degrades and Undermines Cross-Platform Messaging Apps and Rival Smartphones

106. Apple intentionally undermines cross-platform messaging to reinforce “obstacle[s] to iPhone families giving their kids Android phones.”²¹ Although Apple could have made a better cross-platform messaging experience itself by creating iMessage for Android, and substantially profited from doing so, the Company concluded that doing so “will hurt us more than help us.”²² In fact, as Apple put it, messaging apps are “a central artery through which the full range of customer experience flows.”²³ Nevertheless, to maintain its monopoly power, Apple continues to hinder innovation in smartphone messaging and willingly sacrifices the profits it would earn from increasing the value of the iPhone to users.

107. In technical terms, smartphone messaging apps operate using “protocols,” which are the systems that allow communication and determine the features available to users interacting with each other via the apps. One important protocol utilized by these apps is SMS, which offers broad

¹⁹ *Id.*, ¶79.

²⁰ *Id.*

²¹ *Id.*, ¶80.

²² *Id.*

²³ *Id.*, ¶81.

1 user network but limited functionality. For example, although all phones can receive SMS
2 messages, it does not support modern messaging features like sharing large files, editing messages,
3 or reacting to messages. Many messaging apps, such as WhatsApp, Facebook Messenger, and
4 Signal, use proprietary, internet-based protocols, sometimes referred to as OTT (“over the top”)
5 protocols. OTT messaging usually involves more secure and advanced features like encryption,
6 typing indicators, read receipts, the ability to share rich media, and disappearing or vanishing
7 messages. While all phones can send and receive SMS messages, OTT only works between users
8 who sign up for and communicate through the same messaging app. Therefore, a user cannot send
9 an OTT message unless the receiving party uses the same app.

10 108. Apple intentionally built walls to make third-party messaging apps on the iPhone
11 worse generally and relative to iMessages, thereby deliberately and knowingly degrading quality,
12 privacy, and security for iPhone users. One example is that Apple decided to designate the APIs
13 necessary to implement SMS as “private.” This decision meant that third-party developers had no
14 technical ability and were prohibited under Apple’s contractual agreements with developers from
15 accessing these necessary APIs. The decision also meant that third-party messaging apps cannot
16 combine the “text to anyone” functionality of SMS with the advanced OTT messaging. As a result,
17 a user who wants to send a message in a third-party messaging app must first confirm whether the
18 recipient has the same app, and if the recipient did not have the app, has to convince that person to
19 download and use a new messaging app. However, users of iMessages, Apple’s own product, do
20 not face this similar impediment because iMessages incorporates SMS and OTT messaging.
21 Therefore, an iMessage user simply has to put in any number into the “TO:” field.

22 109. Apple has created other walls for the sole benefit of protecting its own proprietary
23 messaging system by prohibiting developers from incorporating other important features into their
24 messaging apps. For example, non-iMessage messaging apps cannot continue to operate in the
25 background when the app is closed, which impairs functionalities like message delivery
26 confirmation. Also, when users receive video calls, third-party messaging apps cannot access the
27 iPhone camera, which would allow users to preview their appearance on video before answering
28 the call. These functions, Apple intentionally reserves for its own app, iMessages.

110. Allowing third-party apps to incorporate these features would be more valuable and attractive to users and make the iPhone more valuable to Apple in the short term. One simple example is that by incorporating SMS, users would not have to convince the recipient to download a separate app before sending a message. Also, these other messaging apps could offer the ability to schedule SMS messages for the future and support robust multi-device use. Significantly, these functions are already available on the Android operating system. These functionalities would also allow third-party messaging apps to benefit from significant network effects by increasing traffic and making the app more popular and valuable. However, Apple enforces these restrictions to reinforce network effects that solely benefit Apple.

111. By creating these walls within its garden, Apple is able to control which technological advancements are available to its users and is able to hinder innovation on and off the iPhone by impeding developers. For example, although Apple recently stated that it plans to incorporate more advanced features for cross-platform messaging by adopting a 2019 version of the RCS protocol, which combines aspects of SMS and OTT, the Company has not done so yet. Moreover, doing so would not cure Apple's active efforts to undermine third-party messaging apps because those apps would still be prohibited from incorporating RCS. Furthermore, future improved iterations of RCS would still be beholden to Apple's approval in order to be available for iPhone users.

112. To protect its monopoly, Apple not only abandon profits for itself, but is also willing to sacrifice improved user privacy or security. Recently, Apple blocked a third-party developer from fixing the broken cross-platform messaging experience in Apple Messages and providing end-to-end encryption for messages between Apple and Android users.

113. Apple also affirmatively undermines the quality of rival smartphones. An iconic example is the blue vs green bubbles in iMessages. If an iPhone user messages another iPhone user, the text message appears in a blue bubble; however, if an iPhone user messages a non-iPhone user, the text message appears in a green bubble. Outside of the social stigma, exclusion, and blame that many non-iPhone users face for "breaking" chats where other participants own iPhones, green bubble chats incorporate limited functionality: the conversations are not encrypted, videos are

1 pixelated and grainy, and users cannot edit messages or see typing indicators. These notable
 2 degraded functionalities signals to users that rival smartphones are of lower quality, even though it
 3 is Apple, not the rival smartphone, that caused the degraded user experience. These effects are
 4 particularly powerful in certain demographics, like teenagers, where 85% utilize iPhones.

5 114. Apple is aware that its conduct harms users and increases frictions for switching
 6 smartphones. In 2013, Apple's Senior Vice President of Software Engineering explained that
 7 supporting cross-platform OTT messaging in iMessages "would simply serve to remove [an]
 8 obstacle to iPhone families giving their kids Android phones."²⁴ A few years later in 2016, Apple's
 9 Senior Vice President of Worldwide Marketing forwarded an email to CEO Tim Cook making the
 10 same point: "moving iMessage to Android will hurt us more than help us."²⁵ And, recently in 2022,
 11 Tim Cook was asked whether Apple would fix iPhone-to-Android messaging. "It's tough," the
 12 questioner implored Cook, "not to make it personal but I can't send my mom certain videos."
 13 Cook's response was: "Buy your mom an iPhone."²⁶

14 2. Video Messaging/Conferencing: Apple Degrades and Undermines 15 Cross-Platform Video Messaging and Conferencing Apps and Rival 16 Smartphones

17 115. Apple employs similar tactics from its monopoly playbook to hinder crucial
 18 functionalities in video messaging or conferencing to protect its own proprietary video messaging
 19 app, FaceTime. Apple does so to protect its monopoly despite the benefits such functionalities
 20 would provide for users and developers, and regardless of the value it would provide for the iPhone.

21 116. For example, FaceTime is not available outside of the Apple App Store. Therefore,
 22 in order for a non-iPhone user to video chat with an iPhone user, it is faced with the options to
 23 either both download a third-party app with fewer functionalities or is required to rely on a web
 24 browser version of FaceTime with limited capabilities for the non-iPhone user.

25 117. Another example is that FaceTime allows a user to see the other parties' video in
 26 the background while using the iPhone. However, other major video messaging and conferencing
 27 apps, such as Skype and Microsoft Teams, are not allowed to run in the background. Therefore,

28 ²⁴ *Id.*, ¶91.

²⁵ *Id.*

²⁶ *Id.*, ¶92.

1 when a user exits the app, the user's video simply disappears and the call has degraded to an audio
2 call. By restricting the functionalities available on these third-party apps, Apple is able to steer
3 iPhone users to an app capable of such functionalities, FaceTime. Notably, this is not the case for
4 Android users, and therefore lowers the value of the iPhone in the short term. However, it protects
5 Apple's monopoly by encouraging users to rely on Apple's FaceTime product.

6 118. Technically, video messaging applications utilize Voice Over Internet Protocol
7 (VoIP), this system transmits audio and accompanying video by breaking down the inputs into code
8 "packets" in a method called "packet switching." The packets essentially work like an email, they
9 are sent chunk by chunk over the internet to the recipient's phone, where the packets are
10 reassembled and the video is transmitted onto the recipient's screen. The largest drawback to this
11 system is that since VoIP calls, or video messaging calls, travel back and forth as streams of
12 "packets," they are particularly vulnerable to network problems causing degradation of packets or
13 software designed to do the same. A degradation in these packets interferes with audio and video
14 capabilities, and produces the notorious lag or choppiness of video calls. The process works the
15 same for Apple's FaceTime, however Apple utilizes its walled garden to "self-preference"
16 Facetime, to the detriment of alternatives.²⁷

17 119. Furthermore, Apple's optimization across its family of devices and software means
18 that Apple prioritizes the audio and video quality of its FaceTime app over apps like WhatsApp or
19 Skype which provide the same services. Since Apple provides priority to its own devices, services,
20 and software when utilizing processing power or bandwidth on a device, FaceTime calls are
21 generally clearer and smoother as there is less of an opportunity for degradation of the audio and
22 video being transmitted.²⁸

23 120. Apple's optimization also means that FaceTime is already baked into Apple's other
24 apps. FaceTime comes automatically installed and configured on an Apple product out of the box.

25 ²⁷ See Nick Steinberg, *How to Make a Video Call on Android*, Lifewire Feb. 16, 2024
26 <https://www.lifewire.com/make-video-call-on-android-5096926>; Chris Woodford, *VOIP*,
27 Explainthatstuff, April 3, 2023, <https://www.explainthatstuff.com/how-voip-works.html#voip>;
28 Troy Wolverton, *With FaceTime, Apple Has Chance to Dominate Video Calls*, Phys.org, June 10,
2010,

²⁸ Troy Wolverton, *Apple Has Chance to Dominate Video Calls*; see also Christopher Mims, *The Main Driver of Apple's Success Has Become its Biggest Liability*.

1 If an Apple user wanted to FaceTime a friend, they could simply navigate to that friend's "contact"
 2 and select the option to "FaceTime" them. In order to videochat that same friend via any other video
 3 messaging service platform, a user must first navigate to the App Store. Then, the user needs to
 4 find a video messaging app and download it. Then, the app and its settings must be configured and
 5 then the user must navigate to that specific app and then manually generate a call. Also, when users
 6 receive video calls, third-party messaging apps cannot access the iPhone camera, which would
 7 allow users to preview their appearance on video before answering the call. These functions, Apple
 8 intentionally reserves for its own app, FaceTime.²⁹

9 **3. Smartwatches: Apple Impedes the Development of Cross-Platform** 10 **Smartwatches**

11 121. Apple also uses smartwatches, an expensive accessory, to protect its iPhone
 12 monopoly and prevent its users from leaving its walled garden. Even though Apple copied the idea
 13 of a smartwatch from third-party developers, Apple now weaponizes its monopoly power to prevent
 14 third-party developers from innovating and limits the Apple Watch to iPhone to prevent a negative
 15 "impact on the iPhone sales."

16 122. Smartwatches are wrist-worn devices with an interactive display that runs apps
 17 letting users perform a variety of functions, such as monitoring health data, responding to messages
 18 and notifications, performing mobile payments, and telling time. Generally, these devices must be
 19 paired with a smartphone to operate and unlock their full functionality. Due to the significant cost
 20 of buying a smartwatch, users are less willing to choose a smartphone if it is incompatible with
 21 their smartwatch.

22 123. Apple's smartwatch, the Apple Watch is only compatible with the iPhone. This
 23 accessory to the iPhone costs around \$499.99. Therefore, if a user purchases an Apple Watch, it
 24 becomes very costly for that user to purchase a non-iPhone because doing so would require the user
 25 to abandon their costly Apple Watch and purchase a new smartwatch.

26 124. However, cross-platform smartwatches can reduce iPhone users' reliance on
 27 Apple's proprietary hardware and software by allowing the user to simply switch from iPhone to

28 ²⁹ <https://www.lifewire.com/make-video-call-on-android-5096926>

1 another smartphone (or vice versa) by downloading the companion app on their new phone and
2 connecting the device via Bluetooth. Furthermore, cross-platform smartwatches allow users to
3 interact with a smartwatch by accessing apps from their smartwatch instead of their smartphone
4 and rely less on a specific smartphone's proprietary software. This would also reduce costs and
5 frictions for users to switch from an iPhone to a different smartphone.

6 125. Apple has acknowledged that having users purchase an Apple Watch instead of a
7 third-party cross-platform smartwatch helps drive iPhone sales and reinforce its smartphone walled
8 garden. A 2019 email by the Vice President of Product Marketing for Apple Watch explicitly stated
9 that Apple Watch "may help prevent iPhone customers from switching." Surveys have also reached
10 this conclusion as many users cite devices linked to their iPhone as a main reason for not switching
11 to Android. Apple has also noted that making Apple Watch compatible with Android would
12 "remove [a]n iPhone differentiator."³⁰

13 126. Apple utilizes its monopoly power to degrade the functionality of third-party cross-
14 platform smartwatches in at least three ways by using its control of the iPhone, including its
15 technical and contractual control of critical APIs. First, Apple deprives iPhone users relying on
16 third-party smartwatches of the ability to respond to notifications. Second, Apple hinders third-
17 party smartwatches from maintaining a reliable connection with the iPhone. Third, Apple degrades
18 the performance of non-Apple Watches that connect directly with a cellular network. As a result,
19 Apple restricts user choice and impedes innovation but protects its walled garden.

20 127. For example, cellular-enabled smartwatches allow the user to connect directly to a
21 cellular network without a smartphone, thereby making calls, sending messages, and downloading
22 data. These smartwatches account for approximately 20% of Apple Watch sales. By allowing the
23 cellular-enabled Apple Watch to use the same phone number as their iPhone, messages are
24 delivered to both the user's smartphone and smartwatch, providing an integrated messaging
25 experience. However, for non-Apple Watch cellular-enabled smartwatches, Apple requires users
26 to disable iMessage service on the iPhone to use the same phone number for both devices—a non-
27

28 ³⁰ DOJ Complaint, ¶99.

1 starter for most iPhone users. In practice, iPhone users with a third-party smartwatch are forced to
 2 maintain separate phone numbers for the two devices, creating greater friction for iPhone users.

3 **4. Digital Wallets: Apple Restricts Cross-Platform Digital Wallets on the**
 4 **iPhone, Reinforcing Barriers to Consumers Trying to Switch to Rival**
 5 **Smartphones**

6 128. Digital wallets have become more ubiquitous, with even Apple acknowledging that
 7 paying for products and services with a digital wallet will eventually become “something people
 8 do every day of their lives.”³¹ However, Apple deploys its control over app creation, including its
 9 technical and contractual control over API access, to effectively block third-party developers from
 10 creating digital wallets on the iPhone with critical and profitable features. For example, Apple
 11 prohibits third parties from accessing the necessary APIs to allow users to access the tap-to-pay
 12 function; Apple maintains complete control over how users make tap-to-pay payments with their
 13 iPhone. This anticompetitive conduct deprives users of the benefits and innovations of third-party
 14 wallets so that Apple can protect “Apple’s most important and successful business, iPhone.”³²

15 129. Digital wallets are apps that are like a physical wallet on a smartphone, allowing
 16 users to store and use passes and credentials, such as credit cards, personal IDs, movie tickets, and
 17 car keys, in a single app. For example, digital wallet apps allow users to pay in person by tapping
 18 their smartphone on a payment terminal instead of using a physical credit card. They can also be
 19 used for transactions in other apps and websites.

20 130. Apple Wallet is Apple’s proprietary digital wallet available only on the iPhone.
 21 Apple Wallet incorporates Apple’s proprietary payment system Apple Pay, which processes digital
 22 payments on the web, in apps, and in person. Apple envisions that ultimately Apple Wallet will
 23 supplant multiple functions of physical wallets and become a single app for crucial functions such
 24 as shopping, digital keys, transit, identification, travel, and entertainment. By making the Apple
 25 Wallet only available on iPhones, Apple is able to ensure that users relying on Apple Wallet for
 26 payments and beyond will “drive, more sales of iPhones and increase stickiness to the Apple
 27 ecosystem.” This further creates frictions for any iPhone user considering leaving Apple’s walled

28 ³¹ *Id.*, ¶104.

³² *Id.*

1 garden because the user would be required to leave behind the familiarity of an everyday app,
2 setting up a new digital wallet, and potentially losing access to certain credentials and personal data
3 stored in Apple Wallet.

4 131. Cross-platform digital wallets offer easier, more seamless, and potentially more
5 secure way for users to switch from the iPhone to another smartphone. For example, if financial
6 institutions offer digital wallets, users would benefit from greater security and privacy by not being
7 forced to share their highly sensitive financial data with Apple. Such opportunities would make the
8 iPhone more attractive to users and offer substantial short-term profits for Apple.

9 132. However, to protect its monopoly, Apple has restricted the capabilities of cross-
10 platform digital wallets. For example, due to Apple's anticompetitive conduct, cross-platform
11 digital wallets are not able to manage and pay for subscriptions and in-app purchases. Also, cross-
12 platform digital wallets are unable to have the tap-to-pay functionality, which is crucial to its
13 success and valuable to users. Many app developers have sought direct access to Apple's NFC
14 hardware for their payment or wallet apps. However, Apple prohibits these developers from
15 incorporating this feature for fear that doing so would "be one way to disable [A]pple [P]ay
16 trivially," leading to the proliferation of other payment apps" that might operate cross-platform and
17 ultimately undermine Apple's smartphone monopoly.³³ This restriction also makes it harder for
18 iPhone users to purchase a different smartphone.

19 133. Another example is that Apple weaponizes its control over app creation and APIs to
20 selectively prohibit developers from accessing the NFC hardware necessary to provide tap-to-pay
21 through a digital wallet app. Apple has decided to only allow one app on the iPhone to use NFC to
22 facilitate tap-to-pay: Apple Wallet. Although Apple actively encourages banks, merchants, and
23 other parties to use Apple Wallet, the Company blocks these same institutions from developing
24 better payment products and services for iPhone users. Apple further impedes adoption of non-
25 Apple Wallet digital wallet apps by restricting them from offering the ability to authenticate digital
26 payment options on online checkout pages. This restriction further undermines the viability of such
27 wallets and strong-arms iPhone users to rely on Apple Wallet. Apple also blocks other digital

28 ³³ *Id.*, ¶114.

wallets from serving as an alternative to Apple’s in-app payment (IAP). This further degrades these non-Apple Wallet apps and limits iPhone users from offers such as use of reward points in purchasing, digital receipts, returns, loyalty programs, and digital coupons for purchases of relevant subscription and digital goods. In fact, Apple even prohibits developers on Apple App Store from notifying users of a developer’s app that cheaper prices for services are available via alternative digital wallets or direct payments.

134. Apple also uses its smartphone monopoly to extract payments from banks, which require access to customers that use digital wallets on iPhones. Apple charges issuing banks a 0.15% transaction fee for each credit card transaction mediated by Apple Pay. Notably, payment apps from competitors Samsung and Google do not demand such fees. These fees are a significant expense for issuing banks and cut into funding for features and benefits that might otherwise be offered to benefit iPhone users. Significantly, a United States Consumer Financial Protection Bureau report states that “analysts estimate that the value of digital wallet tap-to-pay transactions will grow by over 150 percent by 2028.”³⁴ Fees on a large and critical slice of all digital wallet NFC transactions is estimated to grow, according to the United States Consumer Financial Protection Bureau, to \$451 billion by 2028.

C. Apple’s “Walled garden” Around its Smartphone Monopoly is High and Wide: Apple Uses a Similar Playbook to Maintain its Monopoly Through Many Other Products and Services

135. The aforementioned exclusionary and anticompetitive actions are examples of Apple’s ongoing course of conduct to build and maintain its smartphone monopoly. Apple has deployed its monopoly playbook for a much broader range of third-party apps and services as well, many of which present technologies that function as middleware, facilitate switching, reduce the need for expensive hardware, or disintermediate Apple’s iPhone by enabling the development of cross-platform technologies. Another example is how Apple undermined third-party location trackable devices that fully function across platforms. Apple has also limited the capabilities of third-party iOS web browsers, including by requiring that they use Apple’s own browsing engine, WebKit. Also, protocols that Apple has implemented around new “eSIM” technology introduce

³⁴ *Id.*, ¶113.

1 additional frictions for any user seeking to leave Apple's walled garden while maintaining the same
2 phone number. Apple has also made data transfer between different devices more difficult to hinder
3 cross-platform cloud storage apps and steer iPhone users to iCloud. Apple further utilizes
4 restrictions in sales channels to get in the way of sales and distribution of rival smartphones.
5 Another example is that Apple has worsened the experience of iPhone users by making it difficult
6 for them to use superior voice and AI assistants and instead steering the users to use Apple's own
7 Siri.

8 136. However, the strategies Apple has employed to date are not the limits of Apple's
9 ability to achieve its anticompetitive and lucrative goals. In the face of technological evolution,
10 Apple continues to adopt, adapt, and shift its anticompetitive behavior to protect and maintain its
11 monopoly power. For example, in recent years, Apple has increasingly offered its own subscription
12 services, including news, games, video, music, cloud storage, and fitness subscriptions, which
13 could be used to further tether users to its platform. These subscription services and other ancillary
14 fees are a significant part of Apple's net revenue. Reliance on Apple's subscription services also
15 further increases frictions for iPhone users considering switching to non-Apple smartphone or
16 subscription services. They also increase Apple's power over third-parties like content creators and
17 newspapers by controlling how audiences access their work, decreasing traffic to their websites and
18 apps, and allowing Apple to once again position itself as a middleman or gatekeeper in the
19 relationship between creators and users. This tactic enables Apple to take on outsized importance
20 and control in the creative economy, which diminishes incentives to fund, make, and distribute
21 artistic expression.

22 137. Apple has also attempted to impede cross-platform technologies like digital car keys
23 to benefit itself but harm consumers. For example, the default settings of Apple Wallet steers users
24 to the Apple Wallet rather than allowing third parties to present digital car keys only in their own
25 cross-platform app, further increasing reliance on Apple and the iPhone whenever users use their
26 car. This action also disincentivizes automakers from innovating because they are forced to share
27 data with Apple and prevented from distinguishing themselves as they would be able to absent
28 Apple's anticompetitive conduct.

IV. ANTICOMPETITIVE EFFECTS

A. Apple's Conduct Harms the Competitive Process and Injures iPhone Purchasers and iOS Developers

138. Apple protects its monopoly power in the smartphone and performance smartphone markets by utilizing its control over app distribution and creation to suppress or delay apps, innovations, and technologies that would lower costs for users to switch devices or decrease their reliance on Apple. Doing so allows Apple to face less competition from rival smartphones and less competitive pressure from innovative, cross-platform technologies not on the basis of Apple's product superiority but by its degradation of alternative products.

139. Facing less competition has also allowed Apple to extract extraordinary profits and regulate innovation to serve its interests. This harms all smartphone users, giving them fewer choices, higher prices and fees, lower quality smartphones, apps, and accessories, and less innovation from Apple and others. Apple's conduct has already resulted in less choice for smartphone users; today, only Google and Samsung remain as meaningful competitors to Apple in the premium smartphone market. Without intervention, Apple will continue to use and strengthen its smartphone monopoly to dictate how companies can distribute and create apps in the future so that Apple can protect its monopoly.

140. Apple's conduct has increased the technical, behavioral, monetary, and other costs of switching from an iPhone to an alternative smartphone, undermining competition and entrenching Apple's monopoly power. Apple's conduct has also delayed or suppressed emergence of cross-platform technologies that would put competitive pressure on Apple's ability to extract exorbitant profits from its users and developers. Apple engaged in such conducts even though doing so made its own products worse, with the Company actively striving to offer only what is "good enough." In a competitive market, Apple would be forced to compete aggressively to support the development of popular apps and accessories for iPhone users, which would make iPhones more valuable and attractive to its users.

141. Apple's conduct has resulted in several developers abandoning plans to develop extraordinarily innovative technologies such as super apps and cloud-based gaming apps even after

1 making significant investments to bring the technologies to market. For example, at least one
2 company has canceled its development of a smartwatch, which formed part of its overall wearables
3 strategy. This has also stopped its future development of virtual-reality technology.

4 142. Apple's conduct has also harmed non-iPhone users. Due to the substantial costs of
5 maintaining different features across different smartphones, many potential super apps, mini
6 programs, and other developers do not implement features prohibited by Apple even on other
7 smartphones. For example, prospective digital wallet providers, like US banks, have abandoned
8 developing digital-wallet apps for either Apple or other smartphones. Another company decided to
9 not offer any users an innovative digital car key in part because of Apple's requirement that the
10 company add any features related to the key into Apple Wallet rather than solely on its own app.
11 The popular cloud streaming and gaming apps listed above also decided to not market to iPhone
12 users because of these walls. As a result, all smartphone users enjoy lower quality smartphones,
13 less innovation, and less choice.

14 143. Apple's conduct exposes that Apple is motivated by the anticompetitive purpose of
15 building or maintaining monopoly power in the relevant markets. Upon information and belief,
16 Apple has sacrificed substantial revenues it could have earned from super apps, mini programs,
17 cloud streaming apps, and many other third-party apps and accessories. In particular, mobile
18 gaming already accounts for a large and growing portion of Apple's revenue and offering popular
19 cloud streamed gaming apps would generate significant revenue for Apple through subscriptions
20 and in-app purchases. However, Apple preferred the long-term benefit of reduced competition in
21 relevant markets to the revenue it would have generated from cloud gaming, super apps, and mini
22 programs, or the quality and consumer demand increase that would flow from this innovation.
23 Apple has also utilized its control over app distribution and creation to selectively undermine
24 popular cross-platform technologies to protect itself.

25 144. The harms that Apple's conduct creates for smartphone competition are amplified
26 by Apple's decision to be the sole distributor to iPhone users through the Apple App Store. If there
27 were other app stores available for users, they could choose apps that did not restrict super apps or
28 mini programs, regardless of Apple's conduct. However, Apple does not give users that choice. By

1 acting as the gatekeeper, Apple increases users' switching costs and dependence on its platform for
2 users and developers.

3 145. The breadth of Apple's smartphone monopoly has given it many levers to maintain
4 its power despite intervention efforts focused on eliminating or disciplining specific
5 anticompetitive practices. This is because Apple's iPhone monopoly, only possibly through its
6 anticompetitive conduct, grants the Company power to set the rules by which most smartphone
7 users buy digital and hardware products, and by which developers are allowed to sell these same
8 products to users. Apple has the ability and has shown willingness to adopt new rules, restrictions,
9 or features that reinforce its monopoly and harm competition in other ways. For example, despite
10 stating plans to adopt RCS in the face of market and international regulatory pressure, Apple
11 continues to contractually restrict third parties from accessing other crucial APIs and features that
12 would enable cross-platform messaging apps. As another example, Apple was previously enjoined
13 from enforcing certain anti-steering provisions in its agreements with developers. However, Apple
14 simply created a different set of burdensome restrictions on developers to achieve a similar result.
15 In other instances, Apple utilized its control over app distribution to force companies to comply
16 with its policies that may contradict local laws by choosing to delay the review of the offending
17 companies' apps.

18 **B. Apple Will Utilize Its Monopoly Playbook Again in the Future**

19 146. Apple has repeatedly shown its commitment to rely on its monopoly playbook
20 despite facing significant consequences and discipline for its anticompetitive conduct. Therefore,
21 Apple's conduct does not just impact the past and present but will continue to pose significant risk
22 to the development of new innovations. Apple will use the aforementioned tactics and adaptations
23 of such tactics to acquire and maintain power over next-frontier devices and technologies.

24 147. Other than the several products discussed above, Apple has countless products and
25 services – such as AirPods, iPads, Music, AppleTV, photos, maps, iTunes, CarPlay, AirDrop,
26 Apple Card, and Cash. These provide new avenues for Apple to engage in anticompetitive conduct
27 and the ability to thwart narrow remedies. Therefore, appropriate forward-looking remedies are
28

1 necessary to ensure that Apple cannot continuously use these products and services to further
2 entrench its monopoly power and violate antitrust laws.

3 **C. Countervailing Factors Do Not Justify Apple's Anticompetitive Conduct**

4 148. Although Apple markets itself on the basis of privacy and security to distinguish
5 itself from its remaining main two competitors, there are no valid, procompetitive benefits of
6 Apple's exclusionary and anticompetitive conduct that would outweigh its anticompetitive effects.
7 Apple's building and reinforcement of its walled garden has not resulted in lower prices, higher
8 output, improved innovations, or a better user experience for smartphone users.

9 149. Apple often imposes contractual restraints on app creation and distribution, imposes
10 hefty fees on many types of smartphone interactions, and conditionally restricts API access on its
11 platform despite the worse effect to iPhone users' privacy and security. For example, Apple's
12 conduct targeting digital wallets and forcing users to share information with Apple either directly
13 or as an intermediary is more dangerous for users' privacy or security than if the users share directly
14 with their bank, medical provider, or other trusted third party. Apple's role introduces an additional
15 point of failure for privacy and security. Similarly, super apps and alternative app stores could
16 enhance user privacy and security. This is most blatantly exhibited by the fact that Apple allows
17 enterprise and public sector customers to offer more curated apps on employee iPhones because it
18 better protects privacy and security.

19 150. In fact, Apple is willing to make the iPhone less secure and private to maintain its
20 monopoly power. For example, text messages sent between iPhone and non-iPhone users are
21 unencrypted as a direct result of Apple's conduct. Apple could easily allow iPhone users to send
22 encrypted messages to non-iPhone users while still using iMessage on their iPhone, which would
23 instantly improve the privacy and security of both parties. In fact, when a third-party developer
24 attempted to remedy this problem, Apple actively prohibited them. Another example is that Apple
25 allows developers to distribute apps through the Apple App Store that collect and store vast
26 amounts of personal and sensitive data about iPhone users, including children. Furthermore, Apple
27 has also entered into agreements to share in the revenue generated from advertising, which is reliant
28 on harvesting users' personal data. For example, Apple receives massive payments from Google to

1 make Google the default search engine in the safari web browser, although Apple recognizes that
2 other search engines are far better at protecting user privacy.

3 151. Apple has also decided to selectively enforce its rules and contractual restrictions
4 for app distribution and creations. For example, Apple permits developers to introduce mini
5 programs, stream content from the cloud, use virtual currency, and receive special permissions or
6 access to APIs not automatically available to everyone when it benefits Apple to do so.

7 152. It is also noteworthy that Apple does not engage in this type of conduct on its Mac
8 laptops and computers; instead, it allows developers to distribute software directly to consumers on
9 Mac without going through Apple's App Store and fees gates. Nevertheless, Apple is still able to
10 provide a safe and secure experience for Mac users, demonstrating that Apple's exclusionary and
11 anticompetitive conduct with regard to its smartphone monopoly is substantially more restrictive
12 than may be necessary to protect user privacy and security.

13 153. As these examples show, Apple chooses to make the iPhone private and secure when
14 doing so benefits Apple and chooses alternative paths when doing so would protect its monopoly
15 power. Apple's conduct highlights the pretextual nature of any claim that Apple is engaging in the
16 aforementioned conduct to protect user privacy and security.

17 **ANTITRUST INJURY**

18 154. Plaintiffs and Class Members have suffered antitrust injury as a direct result of
19 Apple's unlawful conduct.

20 155. Plaintiffs and Class Members have purchased iPhones directly from Apple.

21 156. As described above, Apple's restrictive contracts and anticompetitive practices have
22 foreclosed competition in the smartphone market by disabling freedom of choice in the
23 Performance Smartphone and Smartphone Markets, and enabled Apple to charge Plaintiffs and
24 Class Members supracompetitive prices for iPhones.

25 157. Also, because Apple continues to engage in the anticompetitive practices described
26 herein, Plaintiffs and Class Members are likely to continue to suffer harm.

158. Both the actual harm and the threat of future harm to Plaintiffs and Class Members are directly caused by Apple's anticompetitive practices described herein, and the full amount of such damages will be calculated after discovery and upon proof at trial.

CLASS ACTION ALLEGATIONS

159. Pursuant to Rule 23 of the Federal Rules of Civil Procedure, Plaintiffs bring this action on behalf of themselves and on behalf of the following class (the "Class"):

Nationwide Class: All persons, businesses, and entities in the United States who purchased an iPhone directly from Apple within four (4) years prior to the filing of this complaint.

160. Excluded from the Class are the Court, Defendant and its parent, subsidiary, and affiliated entities, and their officers, directors, employees, affiliates, legal representatives, predecessors, successors, and assigns.

161. Class Members are so numerous that joinder of all members is impracticable. Indeed, due to the nature of the trade and commerce involved, there are, perhaps, tens of millions of geographically dispersed Class Members, the exact number and identities of whom are known exclusively to Defendant.

162. Common questions of law and fact exist as to all Class Members and predominate over any questions affecting solely individual members of the Class. The questions of law and fact common to the Class include:

- a. Whether Defendant has monopoly power in the Performance Smartphone and Smartphone Markets;
- b. Whether Apple's conduct resulted in supracompetitive prices for iPhones;
- c. Whether Apple committed unfair practices in the conduct of its business;
- d. Whether Apple's conduct has been and will continue to be detrimental to Plaintiffs and Class Members; and
- e. The appropriate Class-wide measure of damages.

163. Plaintiffs' claims are typical of the claims of the Class, as all Class Members were similarly affected by Apple's common course of wrongful conduct in violation of federal and state

1 law, as complained of herein. Moreover, the damages and injuries of Plaintiffs and Class Members
2 were directly caused by Apple's wrongful conduct.

3 164. Plaintiffs will fairly and adequately protect the interests of the Class and has retained
4 counsel that is competent and experienced in class-action litigation. Plaintiffs have no interests that
5 conflict with (or are otherwise antagonistic to) the interests of other Class Members.

6 165. A class action is superior to all other available methods for the fair and efficient
7 adjudication of this controversy since joinder of all members is impracticable. Further, as the
8 damages suffered by individual Class Members may be relatively small, the expense and burden of
9 individual litigation make it impossible for members of the Class to individually redress the wrongs
10 done to them. There will be no difficulty in management of this action as a class action.

11 CLAIMS

12 COUNT I

13 **Monopolization of the Performance Smartphone Market in Violation of the Sherman** 14 **Antitrust Act, Section 2**

15 166. Plaintiffs hereby incorporate all other paragraphs as if fully stated here.

16 167. Plaintiffs bring this claim on behalf of themselves and the Class.

17 168. Apple's conduct has violated Section 2 of the Sherman Act, which prohibits the
18 "monopoliz[ation of] any part of the trade or commerce among the several States, or with foreign
19 nations". 15 U.S.C. § 2.

20 169. The Performance Smartphone Market in the United States is a valid antitrust market.

21 170. Apple has held monopoly power in the Performance Smartphone Market.

22 171. Apple has unlawfully acquired and maintained monopoly power in the Performance
23 Smartphone Market through the anticompetitive acts described in this Complaint, including, but
24 not limited to its contractual restrictions against app creation, distribution, and access to APIs that
25 have impeded apps and technologies including, but not limited to, super apps, cloud streaming,
26 messaging, video messaging, wearables, and digital wallets. The areas identified in this complaint
27 reflect a non-exhaustive list of recent anticompetitive acts; as technology advances, both the
28

1 technologies impeded and the particular type of impediment may shift in response to technological
2 and regulatory change, consistent with Apple's past conduct.

3 172. Each of Apple's acts is anticompetitive. However, taken together, the actions have
4 had a cumulative effect that has harmed competition and the competitive process that has ultimately
5 had harmful effects on consumers.

6 173. Apple's conduct has had no legitimate pro-competitive justification considering its
7 anticompetitive effects, and therefore it has unreasonably restrained competition in the Performance
8 Smartphone Market.

9 174. Apple's conduct has affected a substantial volume of interstate commerce.

10 175. Apple's conduct has had substantial anticompetitive effects, including increased
11 prices and costs for iPhones charged to Plaintiffs and Class Members.

12 176. Plaintiffs and Class Members have been injured and damaged by Apple's
13 anticompetitive conduct as Plaintiffs and Class Members have been forced to pay supracompetitive
14 prices for iPhones.

15 177. Plaintiffs and Class Members have suffered and continue to suffer damages and
16 irreparable injury.

17 **COUNT II**

18 **Attempted Monopolization of the Performance Smartphone Market in Violation of the** 19 **Sherman Antitrust Act, Section 2**

20 178. Plaintiffs hereby incorporate all other paragraphs as if fully stated here.

21 179. Plaintiffs bring this claim on behalf of themselves and the Class.

22 180. The Performance Smartphone Market in the United States is a valid antitrust market.

23 181. Apple has attempted to monopolize the Performance Smartphone Market.

24 182. Apple has attempted to maintain monopoly power in the Performance Smartphone
25 Market through the anticompetitive acts described in this Complaint, including, but not limited to
26 its contractual restrictions against app creation, distribution, and access to APIs that have impeded
27 apps and technologies including, but not limited to, super apps, cloud streaming, messaging, video
28 messaging, wearables, and digital wallets. The areas identified in this complaint reflect a non-

1 exhaustive list of recent anticompetitive acts; as technology advances, both the technologies
2 impeded and the particular type of impediment may shift in response to technological and
3 regulatory change consistent with Apple's past conduct.

4 183. Each of Apple's acts is anticompetitive. However, taken together, the actions have
5 had a cumulative effect that has harmed competition and the competitive process that has ultimately
6 had harmful effects on consumers.

7 184. Apple's conduct has had no legitimate pro-competitive justification considering its
8 anticompetitive effects, and therefore it has unreasonably restrained competition in the Performance
9 Smartphone Market.

10 185. In undertaking this course of conduct, Apple has acted with intent to monopolize,
11 and to destroy effective competition in, the Performance Smartphone Market in the United States.

12 186. There is a dangerous probability that, unless restrained, Apple will succeed in
13 monopolizing the Performance Smartphone Market in the United States, in violation of Section 2
14 of the Sherman Act.

15 **COUNT III**

16 **Monopolization of the Smartphone Market in Violation of the Sherman Antitrust Act, 17 Section 2**

18 187. Plaintiffs hereby incorporate all other paragraphs as if fully stated here.

19 188. Plaintiffs bring this claim on behalf of themselves and the Class.

20 189. Apple's conduct has violated Section 2 of the Sherman Act, which prohibits the
21 "monopoliz[ation of] any part of the trade or commerce among the several States, or with foreign
22 nations". 15 U.S.C. § 2.

23 190. The Smartphone Market in the United States is a valid antitrust market.

24 191. Apple has held monopoly power in the Smartphone Market.

25 192. Apple has unlawfully acquired and maintained monopoly power in the Smartphone
26 Market through the anticompetitive acts described in this Complaint, including, but not limited to
27 its contractual restrictions against app creation, distribution, and access to APIs that have impeded
28 apps and technologies including, but not limited to, super apps, cloud streaming, messaging, video

1 messaging, wearables, and digital wallets. The areas identified in this complaint reflect a non-
2 exhaustive list of recent anticompetitive acts; as technology advances, both the technologies
3 impeded and the particular type of impediment may shift in response to technological and
4 regulatory change consistent with Apple's past conduct.

5 193. Each of Apple's acts is anticompetitive. However, taken together, the actions have
6 had a cumulative effect that has harmed competition and the competitive process that has ultimately
7 had harmful effects on consumers.

8 194. Apple's conduct has had no legitimate pro-competitive justification considering its
9 anticompetitive effects, and therefore it has unreasonably restrained competition in the Smartphone
10 Market.

11 195. Apple's conduct has affected a substantial volume of interstate commerce.

12 196. Apple's conduct has had substantial anticompetitive effects, including increased
13 prices and costs charged to Plaintiffs and Class Members.

14 197. Plaintiffs and Class Members have been injured and damaged by Apple's
15 anticompetitive conduct as Plaintiffs and Class Members have been forced to pay supracompetitive
16 prices for iPhones.

17 198. Plaintiffs and Class Members have suffered and continue to suffer damages and
18 irreparable injury.

19 **COUNT IV**

20 **Attempted Monopolization of the Smartphone Market in Violation of the Sherman** 21 **Antitrust Act, Section 2**

22 199. Plaintiffs hereby incorporate all other paragraphs as if fully stated here.

23 200. Plaintiffs bring this claim on behalf of themselves and the Class.

24 201. The Smartphone Market in the United States is a valid antitrust market.

25 202. Apple has attempted to monopolize the Smartphone Market.

26 203. Apple has attempted to maintain monopoly power in the Smartphone Market
27 through the anticompetitive acts described in this Complaint, including, but not limited to its
28 contractual restrictions against app creation, distribution, and access to APIs that have impeded

1 apps and technologies including, but not limited to, super apps, cloud streaming, messaging,
 2 wearables, video messaging, and digital wallets. The areas identified in this complaint reflect a non-
 3 exhaustive list of recent anticompetitive acts; as technology advances, both the technologies
 4 impeded and the particular type of impediment may shift in response to technological and
 5 regulatory change consistent with Apple's past conduct.

6 204. Each of Apple's acts is anticompetitive. However, taken together, the actions have
 7 had a cumulative effect that has harmed competition and the competitive process that has ultimately
 8 had harmful effects on consumers.

9 205. Apple's conduct has had no legitimate pro-competitive justification considering its
 10 anticompetitive effects, and therefore it has unreasonably restrained competition in the Smartphone
 11 Market.

12 206. In undertaking this course of conduct, Apple has acted with intent to monopolize,
 13 and to destroy effective competition in, the Smartphone Market in the United States.

14 207. There is a dangerous probability that, unless restrained, Apple will succeed in
 15 monopolizing the Smartphone Market in the United States, in violation of Section 2 of the Sherman
 16 Act.

17 COUNT V

18 **Unreasonable Restraint of Trade in the Performance Smartphone and Smartphone** 19 **Markets in Violation of the California Cartwright Act**

20 208. Plaintiffs hereby incorporate all other paragraphs as if fully stated here.

21 209. Plaintiffs bring this claim on behalf of themselves and the Class.

22 210. Defendant's conduct constitutes and continues to be an unreasonable restraint of
 23 trade of commerce in violation of the Cartwright Act, California Business & Professions Code §§
 24 16720 et. seq.

25 211. The Performance Smartphone Market and Smartphone Market are valid antitrust
 26 markets.

27 212. Apple has unlawfully restrained competition through the anticompetitive acts
 28 described in this Complaint, including, but not limited to its contractual restrictions against app

1 creation, distribution, and access to APIs that have impeded apps and technologies including, but
2 not limited to, super apps, cloud streaming, messaging, wearables, and digital wallets. The areas
3 identified in this complaint reflect a non-exhaustive list of recent anticompetitive acts; as
4 technology advances, both the technologies impeded and the particular type of impediment may
5 shift in response to technological and regulatory change consistent with Apple's past conduct.

6 213. Each of Apple's acts is anticompetitive. However, taken together, the actions have
7 had a cumulative effect that has harmed competition and the competitive process that has ultimately
8 had harmful effects on consumers.

9 214. Apple's conduct has had substantial anticompetitive effects, including increased
10 prices and costs charged to Plaintiffs and Class Members.

11 215. The anticompetitive effects of Apple's conduct outweighs any procompetitive
12 justification.

13 216. Plaintiffs and Class Members have suffered injury and lost money because of
14 Defendant's violations of law and wrongful conduct, for which they seek damages, including treble
15 damages where appropriate, including pre-judgment interest.

16 217. Defendant's conduct is continuing and unless equitable relief is granted, will
17 continue and cause harm.

18 **COUNT VI**

19 **Violation of California's Unfair Competition Law, California Business & Professions Code** 20 **§§ 17200 et. seq.**

21 218. Plaintiffs hereby incorporate all other paragraphs as if fully stated here.

22 219. Plaintiffs bring this claim on behalf of themselves and the Class.

23 220. Plaintiffs, the Class Members, and Defendant are a "person" or "persons," within
24 the meaning of Section 17201 of the California Unfair Competition Law ("UCL").

25 221. Defendant has engaged in unfair competition within the meaning of California
26 Business & Professions Code section 17200, et seq., because Defendant's conduct, as described
27 herein, violated the California Cartwright Act and the Sherman Antitrust Act.

28 222. Thus, Defendant violated the UCL's unlawful and unfair prongs.

223. Additionally, these unfair acts and practices were immoral unethical, oppressive, unscrupulous, unconscionable, and/or substantially injurious to Plaintiffs and Class Members. Defendant's practices were also contrary to legislatively declared and public policies.

224. Plaintiffs have standing to pursue this claim because they have been injured by virtue of the wrongful conduct alleged herein.

225. The Unfair Competition Law is, by its express terms, a cumulative remedy, such that remedies under its provisions can be awarded in addition to those provided under separate statutory schemes and/or common law remedies, such as those alleged in the other Counts of this Complaint. *See* Cal. Bus. & Prof. Code § 17205.

226. As a direct and proximate cause of Defendant's conduct, which constitutes unlawful and unfair business practices as alleged herein, Plaintiffs and Class Members have been damaged and suffered ascertainable losses.

227. Plaintiffs and Class Members are thereby entitled to recover restitution and equitable relief, including disgorgement or ill-gotten gains, refunds of moneys, interest, reasonable attorneys' fees, filing fees, and the costs of prosecuting this class action, as well as any and all other relief that may be available at law or equity.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs respectfully request that this Court:

A. Certify this case as a class action and appoint Plaintiffs as Class representatives, and appoint their counsel as class counsel;

B. Grant injunctive relief requiring that Apple to cease the abusive, unlawful, and anticompetitive practices described herein, and award declaratory relief, adjudging such practices as unlawful;

C. Award Plaintiffs and Class Members damages, including treble damages where available, for injuries caused by defendants' unlawful conduct in violation of federal and state antitrust laws;

D. Award Plaintiffs and the Class their reasonable attorneys' fees and costs; and

E. Grant Plaintiffs such further relief as the Court deems appropriate.

JURY TRIAL DEMAND

Plaintiffs demand a trial by jury of all issues so triable.

DATED: April 1, 2024

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